

**GOVERNMENT OF WEST BENGAL
OFFICE OF THE DIRECTOR GENERAL
WEST BENGAL FIRE & EMERGENCY SERVICES
13-D Mirza Ghalib Street, Kolkata- 700 016**

Memo No : IND/WB/FES/20192020/60569

DATE: 19/09/2019

From :

**The Director
Fire Prevention Wing,
West Bengal Fire & Emergency Services.**

To :

**Shakespear Promoters Private Limited and Others
1839, Lashkarhat, R.S. Dag No. 391, 392, 393, Mouza - Lashkarhat, J.L. 11.
Gariahat F.S., Tiljala,
Kolkata - 700039 .**

Sub :Fire Safety Recommendation for a proposed construction of G + 15 storied building under group Business at the premises no.- 1839, Lashkarhat, R.S. Dag No. 391, 392, 393, Mouza - Lashkarhat, J.L. 11., Tiljala, Kolkata - 700039.

This is in reference to your Application No. IND/WB/FES/20192020/60569,dated 19/09/2019, regarding the Fire Safety Measure for a proposed construction of G + 15 storied building under group Business at the premises no.- 1839, Lashkarhat, R.S. Dag No. 391, 392, 393, Mouza - Lashkarhat, J.L. 11., Tiljala, Kolkata - 700039..

The plan submitted by you was scrutinized and marked as found necessary from Fire Safety point of view. In returning one set of plan with recommendation, this is issuing Fire Safety Recommendation in favour of the aforesaid building subject to the compliance of the following fire safety measure.

Recommendation:

1. CONSTRUCTION:

1.The whole construction of the existing building shall be carried out as per approved plan drawings conforming the relevant building rules of local Municipality Body (Bidhannagar /

Kolkata Municipal Corporation).

- 2.The floor area exceeds 3000 m² shall be suitably compartmented by separation walls up to ceiling level having two hours fire resisting capacity.
- 3.The interior finish decoration of the building shall be made low flame spread materials conforming I.S. specifications.
- 4.Provision of ventilation at the crown of the central core-duct of the building shall be provided.
- 5.Arrangement shall have to be made for sealing all the vertical and horizontal ducts by the materials of adequate fire resisting capacity

OPEN SPACE AND APPROACH:

- 1.The open spaces surrounding the building shall conform the relevant building rules as well as permit the accessibility and maneuverability of Fire Appliances with turning facility.
- 2.The approach roads shall be sufficiently strong to withstand the load of Fire Engine weighting 45M.T.
- 3.The width and height of the access gate into the premises shall not be less than 4.5 mts. and 5.0 mts. respecting the abutting road.
- 4.Drive way should be free from any type of obstruction. No parking will be allowed on the drive way.
- 5.All the Passage way should be kept clear for free access.

STAIRCASE:

- 1.The staircase of the building shall be enclosed type. Entire construction shall be made of bricks/R.C.C. type having Fire Resisting capacity not less than 4 hours.
- 2.The staircase of the building shall have permanent vents at the top and openable sashes at each floor level in the external walls of the building.
- 3.The width of the staircase shall be made as marked in the plan. Corridors and the exit doors shall conform the relevant Building Rules with up to date amendment.
- 4.All the staircase shall be extended up to terrace of the building and shall be negotiated to each floor.
- 5.Fire and smoke doors at the entrances of all the staircase enclosures as marked in the plan at each floor level shall be provided. The F.C.D. shall be of at least one hour Fire Resisting wire glass window fitted with self-closing type openable in the direction of escape.

LIFT:

- 1.The walls of the lift enclosure shall be at least two hours Fire Resisting type.
- 2.Collapsible gate shall not be permitted.

3. One of the lift shall be designed for Fire Lift. The word "FIRE LIFT" shall conspicuously written at ground floor.

4. Lift and Lift Lobby shall be communicated to the basement and shall have to be pressurized as per guide line of N.B.C. part-IV, Annexure 'C'.

REFUGE AREA:

1. Refuge area is not less than 15 sqm. and shall be provided on the external wall with cantilever projection or other suitable means at above 22.35 mtr. levels of the building as shown in the drawings.

2. The refuge areas shall be of Fire Resisting construction and protected with self-closing F.C.D. at the entrance from the corridors at staircase lobbies.

3. The position of refuge areas shall be such so that they are negotiable by the Fire Service Ladder from the ground level.

FIRE SHAFT:

1) An enclosed Fire Shaft having protected area of 2 hours fire resistance rating comprising protected lobby, Staircase and Fireman's Lift connected directly to exit discharge or through exit passageway with 2 hours fire resisting wall at the level of exit discharge.

2) Fire Shaft shall be equipped with 2 hours Fire Check Door.

3) Fire Shaft shall be equipped with firemen talk back, wet riser and landing valve in its lobby.

4) Fire Shaft shall be extended up to terrace of the building and shall be negotiated to each floor.

5) Fire and smoke doors at the entrances of all the staircase enclosures as marked in the plan at each floor level shall be provided and shall have to be pressurized as per guide line of N.B.C. part-IV, 2016 Annexure 'C'. The F.C.D. shall be of at least two hours Fire Resisting wire glass window fitted with self-closing type openable in the direction of escape.

6) Lift and Lift Lobby shall be communicated to the Fire Shaft and shall have to be pressurized.

BASEMENT:

1. The basement shall be adequately ventilated.

2. Additional staircase from the open air as shown in the drawing shall be constructed beside the ramps conforming relevant I.S. specification.

3. The basement shall be protected with auto sprinklers system/hose reel system etc.

4.Mechanical extractors for smoke venting system from lower/upper basement levels shall also be provided. The system shall be of such design as to operate on actuation of heat/smoke sensitive detector or sprinkler. It shall also have an arrangement to start it manually.

5.Mechanical extractors shall have an alternative source of supply.

FIRE FIGHTING WATER:

Underground water reservoir having water capacity of 1,00,000 ltrs. and overhead water reservoir having capacity of 30,000 ltrs. exclusively for fire fighting purpose with replenishing arrangements @ 1000 ltrs/min. preferably from two different sources of water supply shall be provided. The water reservoirs shall have overflow arrangement with the domestic water reservoir as well as to avoid stagnancy of water. The water reservoir shall be kept full at all time.

HYDRANT SYSTEM :

1.The building shall be provided with wet Riser of 150 mm. Internal diameter pipe Line with provision of landing valves at the staircase landings/half landings at the rate of one such riser for 1000 sq .m. of floor area. The system shall be so designed that shall be kept charged with water all the time under pressure and capable to discharge 2850 Lts./min. at the ground floor level outlet and minimum 900 Lts./min. at the top most outlet. In both cases the running pressure shall not be less than 3.5 Kgs/cm². All other requirements shall conform I.S. 3844 – 1989.

2.Provision of Hose Reel in conjunction with wet Riser shall be made at each floor level conforming the relevant I.S. specification.

3.Ring Main Hydrant with provision of adequate numbers Hydrant shall be installed surrounding the building in accordance with relevant I.S. specification.

SPRINKLER INSTALLATION:

The automatic sprinkler installation shall be provided in basement and in all floor areas of the building as per I.S. 9972. Alarm Gong to be incorporated along with the sprinkler system.

FIRE PUMP:

1. Provision of the Fire Pump shall have to be made to supply water at the rate-designed pressure and discharge into to the Water based system, which shall be installed in the building. One such pump shall always be kept on stand-by preferably be of diesel driven type.

2. A Separate Fire Pump shall preferably be made for the total Sprinkler Installation of the building. Provision of the Jockey Pump shall also have to be made to keep the water based system under pressurized condition at all the time. All the pumps shall be incorporated with both manual and auto starting facilities. The suction of pumps shall preferably of positive type or in case of negative suction the system shall be wet riser-cum down comer with suitable terrace pump with overhead tank.

ELECTRICAL INSTALLATION AND DISTRIBUTION:

1. The electrical installation including Transformers, Switch Gear, Main & Meters etc. and the distribution system of the premises shall be made satisfying the code of practice for Fire Safety in general building as laid down in I.S. specification 1946-1982.

2. The vertical and horizontal electrical ducts shall be sealed at each floor level by fire resisting materials.

3. The electrical installation shall be adequately protected with CO₂/D.C.P. Fire Extinguishers conforming I.S. specification.

4. Arrangement for alternative power supply shall have to be made to supply power with the help of a generator to operate at least the Fire Pump, Deep Tube-Well Pump, Fire Alarm System etc. and also for illuminating the Staircase, Corridors, Lobbies etc. and other places of assembly of the building in case of normal power failure.

DETECTION AND ALARM SYSTEM:

1. Manually operated Electrical Fire Alarm System with at least three numbers of break glass type call boxes fitted with Hooters along with Public Address System at each floor connecting with visual panel board shall be made in Control Room. The Control Room shall be located at entrance of ground floor of the building, other requirements of the system shall be made conforming I.S. 2189-1988.

2. Auto Fire Detection System with the help of Heat and Smoke Detectors shall be installed in all places of below and preferably above false ceiling of the building. The system shall also be made in place of rooms where valuable articles have been kept. The other requirements of the system shall be made in accordance with I.S. 2189-1988.

3. The suppression system shall be made with Fire Extinguishers and total flooding system with CO₂/F.M.-200 particularly in Computer, Electrical processing and Data Room and in all rooms of irreplaceable articles.

4. Hooters will be sounded in such a manner so that an operation of a Detectors or Manual

Call Point. Hooters will be sounded on the same floor and immediate alternate floor.

5.Public Address System linked between all floors and Control Room shall have to be established.

INTELLIGENCE ANALOGUE SYSTEM:

1.Auto Fire Alarm System with Analogue Addressable Smoke /Heat Detectors as per suitability shall be installed in each floor.

2.Addressable analogue manual call boxes incorporating with sounders shall be installed in all floors area of the building in such a manner that maximum travel distance shall not be more than 22.5 mtrs. in order to reach any of the call point.

3.Micro Processor based Fire Alarm Panel shall be installed and all shall also be connected with main panel at the Fire Control Room of the premises having direct dialing facility to the local Fire services unit.

4.Both way Public Address Systems shall be made available in all floors of the building. The system shall be connected to the main Control Room.

5.All the installations shall also be satisfy the I.S. specifications 2189 (as amended) and the code of practice as laid down in the N.B.C. Part- IV.

MULTI LAYER AUTOMATED MECHANIZED CAR PARKING SYSTEM:

1Structural design:- The MLCP shall be constructed of structural steel construction.

2Vertical Deck Separation:- For MLCP having Multi Car Parking level, vertical Fire separation between the upper and lower decks by using a non-perforated and non-combustible materials (Structural Steel Plate) shall be provided. This is to minimize direct impingement of flame to the car in the upper deck and also to prevent dripping of any possible leaking fuel to the lower deck. Proper drainage system shall have to be provided for accidental leaking of oil from the car and sand bed shall be provided at the ground level.

3Fire Engine Access Way:- Access way shall be provided for the Fire Engine to gain access to the car park entrance and exit.

4Fire Hydrant:- Fire Hydrants are to be provided in accordance with CI 4.4 .

5Natural Ventilation:- Each Car Parking deck shall be provided with at least 50% external ventilation opening of the perimeter wall areas and uniformly distributed.

6Sprinkler & Detection System: - Open Modular Type Sprinkler along with Detectors shall be provided in all MLCP areas as per relevant I.S. Specification. Cross zone wise Sprinkler system shall have to be implemented.

7Fire Pump:- Separate Jockey and Sprinkler pump of suitable capacity shall have to be installed for the MLCP areas.

8Operating System:- Both Mechanical and Manual type operating system shall have to be provided.

AIR CONDITIONING SYSTEM (If any):

- 1.The A.H.U. shall be separated for each floor with the system. Air Ducts for individual floors.
- 2.Arrangement shall be made for isolation at the strategic locations by incorporating auto dampers in the Air Conditioning System.
- 3.The system of auto shut down of A.H.U. shall be incorporated with the Auto Detection and Alarm System.
- 4.The Air Handling Units room shall not be used for storage of any combustible materials.

FIRST AID FIRE FIGHTING SYSTEM:

- 1.First Aid Fire Fighting arrangement in the style of portable Fire Extinguishers, Fire Buckets etc. in all floors and vulnerable locations of the premises shall be made in accordance with I.S. 2190-1992.

GENERAL RECOMMENDATIONS:

- 1.Fire License shall have to be obtained for proposed storing and processing with L.P.G. and other highly combustible articles.
- 2.Fire Notice for Fire Fighting and evacuation from the building shall be prepared and be displayed at all vulnerable places of the building.
- 3.Floor numbers and directional sign of escape route shall be displayed prominently.
- 4.The employees and security staffs shall be conversant with installed Fire Fighting Equipments of the building and to operate in the event of Fire and Testing.
- 5.Arrangement shall be made for regular checking, testing and proper maintenance of all the Fire Safety installation and equipments installed in the building to keep them in perfectly good working conditions at all times.
- 6.A crew of trained Fireman under the experienced Fire Officer shall be maintained round the clock for safety of the building.
- 7.Mock Fire practice and Evacuation Drill shall be performed periodically with participation of all occupants of the building.
- 8.Each year a certificate is to be obtained from the Director General, West Bengal Fire & Emergency Services certifying about the satisfactory services, performance of all the Life and Fire Safety arrangements installation of the building.

On compliance of all the above Life and Fire Safety Recommendation, the Director General, West Bengal Fire & Emergency Services shall be approved for necessary inspection and testing of all the installation, Fire Safety Certificate in favour of the occupancy shall be issued on being satisfied with the tests and performances of safety

aspects of installation of the building.

N.B. : Any deviation and changes the nature of use of the building in respect of the approved plan drawing, without obtaining prior permission from this office, this Fire Safety Recommendation will be treated as cancelled.

Director
West Bengal Fire & Emergency Services